



MAIL STOP APPEAL BRIEF-PATENTS
PATENT
1515-1034

IN THE U.S. PATENT AND TRADEMARK OFFICE BEFORE
THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re application of	Appeal No.
Stefan VIRTANEN	Conf. 4900
Application No. 10/534,365	Group 3672
Filed December 5, 2005	Examiner G. Wright
A REAMER ASSEMBLY	

APPEAL BRIEF

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December 31, 2007

(i) **Real Party in Interest**

The real party in interest in this appeal is the assignee, ATLAS COPCO SECOROC AB.

(ii) **Related Appeals and Interferences**

None.

(iii) **Status of Claims**

Claims 1-7 were originally presented. By a preliminary amendment of May 9, 2005, these were amended to remove multiple dependency.

By an amendment of February 20, 2007, the claims were further amended and claim 2 was canceled.

In an Amendment After Final Rejection, filed August 20, 2007, claims 1 and 4 were amended to replace the term "equidistantly" with the term --at the same distance--.

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(iv) **Status of Amendments**

The amendment of August 20, 2007, mentioned above, was after final rejection. An Advisory Action of August 31, 2007 stated that this amendment would be entered for purposes of appeal. The appeal having been filed, this amendment is entered.

(v) **Summary of Claimed Subject Matter**

The present invention is a reamer assembly for widening a drill pilot hole. It is divided into at least three conical segments 18, each of which includes drill buttons 16. The position of the drill buttons on one segment will be the same as the drill buttons on the others with respect to the distance from the center axis of the drill bit. See Figure 3 of our drawings.

Also, each of the conical segments 18 has plural drill bits 16 disposed at different distances from the center axis of the drill bit. On Figure 3 of our drawings, this means that the lines 19a, 19b, 19c are different distances from the axis of the drill bit, which is the broken vertical line at the left of Figure 3.

Our specification makes plain why we do this: see the paragraph bridging pages 3 and 4 of the specification, and more particularly, on page 4, lines 6-16, which point out as follows:

"By placing the buttons 16 in the drill bit 15 in this way, the buttons are themselves able to guide the reamer 11 when drilling in rock 12, so as to cause the drilled hole to follow the pilot hole 13.

The various buttons 16 of each segment 18 are positioned so as to lie at different radial distances

from the axial centre of the drill bit, so that at least one button of each segment will be able to guide the reamer towards the edge of the pilot hole."

This arrangement of the buttons 16 thus provides a centering effect, as we point out in our specification.

(vi) **Grounds of Rejection to be Reviewed on Appeal**

The claim objections having evidently been overcome by amendment, the only rejections to be reviewed on appeal are the rejections of the claims as anticipated by or unpatentable over BRANDENBERG et al. U.S. Patent 6,799,648.

(vii) **Arguments**

BRANDENBERG et al. discloses a drill bit having conical surfaces 22 and having buttons 30 on those conical surfaces.

But notice that the buttons 30 on the conical surfaces 22 are all at the same distance from the axis of rotation of the drill bit. This arrangement is consistently shown in all of Figures 1-5 of BRANDENBERG et al.

In other words, in the applied reference, there are no buttons disposed at different distances from the axis of rotation of the drill bit along those conical surfaces.

We pointed this out in an Amendment After Final Rejection filed August 20, 2007, to which the Examiner replied, in an Advisory Action of August 31, 2007 that the claims do not recite the centering action.

But of course they don't. The centering action is a result, a function of the structure. To claim the structure in a patentable way, you have to recite unobvious structure, and not the function or result. Had we relied on the function or result, then the claims would have been properly objectionable as being functional rather than structural at the point of novelty.

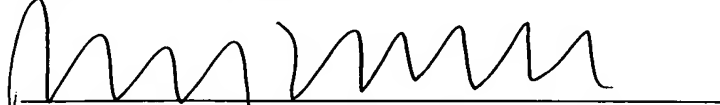
The Examiner notes our argument that there are drill buttons arranged at different distances from the axis of rotation and states that, however, the claims do not recite this limitation. But in fact they do. See the last three lines of claim 1.

Thus, the advantages of the present invention, as set forth on page 4, lines 6-16 of our specification and quoted above, cannot be provided by BRANDENBERG et al., because BRANDENBERG et al. neither discloses nor makes obvious the structural distinctions pointed out above.

Therefore, it is believed to be evident that the decision below cannot be affirmed, but must be reversed, and such is respectfully requested.

Respectfully submitted,

YOUNG & THOMPSON

A handwritten signature in dark ink, appearing to read 'Robert J. Patch', is written over a horizontal line.

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(viii) **Claims Appendix**

1. A reamer assembly (11) for widening a drilled pilot hole or for widening a hole that has been widened in a first step in a down-the-hole drilling operation, wherein the reamer assembly includes a shank(14) for attachment of the reamer to the end of a down-the-hole hammer drill and a conical drill bit or crown (15), characterised in that the conical bit (15) of the reamer is divided into at least three conical segments (18) which are terminated with a transverse end surface (21) which directly connects said conical segments, and in that at least three of said segments (18) include drill buttons (16) of which at least one drill button (16) in each of said at least three segments (18) is disposed at the same distance from the centre axis of the drill bit as the at least one drill button (16) in each of the others of said at least three conical segments (18), each of said conical segments (18) having plural drill buttons (16) disposed at different distances from the center axis of the drill bit.

3. A reamer assembly according to Claim 1, characterised in that the drill buttons (16a-16e) are placed in mutually the same pattern in each of said segments (18).

4. A reamer assembly according to Claim 1, characterised in that a plurality of drill buttons (16) in each segment are disposed at the same distance from the centre of the drill bit (15).

5. A reamer assembly according to claim 1, characterised in that the drill buttons (16a-16e) of one segment are disposed so as to lie close to or to slightly overlap each other in a common plane projection.

6. A reamer assembly according to claim 1, characterised in that drill buttons (22) are provided in the transverse end surface (21) of the drill bit (15).

7. A reamer assembly according to Claim 3, characterised in that a plurality of drill buttons (16) in each segment are disposed equidistantly from the centre of the drill bit (15).

(ix) **Evidence Appendix**

None.

(x) Related Proceedings Appendix

None.